

# SH1 Tawa Curves Drainage Upgrade

NZTA, MWH and Fulton Hogan  
Presented by Karen Sun



# Acknowledgement



- Team members



Mike Pilgrim



Eashwar Balasubramaniyan



Karen Sun

- NZTA, MWH and Fulton Hogan hybrid contract management team

# Project Background



- Substandard drainage at Tawa Curves
- Design completed by MWH in 2008
- Location



Lindenvale

Linden

Greenacres

Westhaven

Tawa

Takapu Valley

Redwood

Sundale



Southgate

Grenada North

Grenada North Park

Native Forest

Ohariu Valley

Horokiwi

Glenside

Normanby

Churton Park

Grenada Village

Maungaraki

Seton Nossiter Park

Frank Cameron Park

Paparangi

Woodridge

Korokoro Recreation Reserve

Johnsonville East

Gilbert Bush Reserve

Korokoro

Johnsonville

Newlands

Hutt Rd

Petone Recreation Ground

Raroa



Hutt Rd

Petone

Johnsonville Park

The Esplanade

Khandallah

Broadmeadows

Hutt Rd

Cuba St



# Project Interesting Features



- Trial alliance between NZTA, MWH and Fulton Hogan
- Trenchless technology
- Graduates managing the project

# Alliance



- Win-win or lose-lose
- Target Outturn Cost (TOC)
- Agreed on a profit margin

# Alliance

Estimated project cost and the project overhead

Target Outturn Cost				
TOC Component		NZTA	MWH	Fulton Hogan
Direct Cost				
Risk and Profit	Risk			
	Profit (n% of Direct Cost + Risk)			
<b>Total</b>		A	B	C
TOC		N = A + B + C		
% of share		A/N	B/N	C/N

True cost = TOC – breakeven

True cost < TOC – profit

True cost > TOC – lost



# Alliance



- No such role as client, consultant or contractor
- Disputes first solved by the alliance team
- Open communication and unbiased opinions

# Trenchless Technology



- Why not open trenching?
- Risk of trenchless

# Pipe Ramming



Launch pit with shoring



Air hose

# Graduates Involvement



What we learned?

- Basic principles of alliance
- Construction methodology, programme and pricing
- Communication is the key
- Construction monitoring

# Graduates Involvement



# Graduates Involvement



## Lessons for future

- Check the conflict with other works
- Plan ahead

# Conclusion



- Alliance – open communication and unbiased opinions
- Trenchless was a success
- Graduates gained valuable experience
- Achieved goal – flooding issue addressed

Thank you for your time!